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REPORT NO. 11

Cotton Fiber and Processing Test Results

CROP of

1973



**Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38122 January 18, 1974**

This is the eleventh of a series of reports of fiber and processing test results from the 1973 cotton crop. Subsequent reports in this series will follow at approximately two-week intervals during the harvesting season, and will be summarized in a comprehensive report at the end of the season. This series will present data on the same subject as "Summary of Cotton Fiber and Processing Test Results, Crop of 1972", May 1973. The summary also includes a detailed description of the tests published in these reports. These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, Tn. 38122.

NOTICE

Effective immediately, mailing address as well as shipping address for all Cotton Division offices and sections in Memphis, Tennessee, is:

4841 Summer Avenue
Memphis, Tn. 38122

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1973

Discussion of Test Results

Cotton testing laboratories of the Agricultural Marketing Service, USDA, report that fibers from the Southwest short staple samples tested, to date, are coarser and stronger than through the same period a year ago. Yarns spun from these samples are weaker with lower appearance grades than a year ago. Yarn imperfections were fewer in samples tested to date. Average spinning potential yarn number is lower.

Averages for all medium staple samples tested through January 11 show slightly weaker fiber than a year ago. Yarns spun from these samples show lower appearance grades.

Medium staple samples tested from the Southeast show coarser and weaker fiber at 1/8" gage tests. Shirley Analyzer nonlint content is higher than a year ago. More yarn imperfections were noted as compared with a year ago. Spinning potential number is lower.

Medium staple samples from the South Central belt show longer, coarser and weaker fibers than a year ago. Yarns spun from these samples show about the same average results as a year ago at this time except the spinning potential number is lower.

Southwest medium staple samples show approximately the same fiber test results as samples of a year ago. Picker and card waste is less. Yarns spun from these samples show lower appearance grades and a lower spinning potential number.

Medium staple samples from the West show fibers to be longer and stronger at both zero and 1/8 inch gage. Yarns spun from these samples are stronger. The appearance index is lower than a year ago.

Averages for all long staple samples tested, to date, are coarser and weaker than a year ago. Yarns spun from these samples show higher appearance grades and fewer imperfections. Average spinning potential yarn number is lower.

Southeast long staple samples tested show coarser and weaker fiber than last season. Yarns spun are weaker than a year ago. Appearance grades are higher and imperfections are fewer than last season. Spinning potential is lower.

South Central long staple samples tested show shorter, coarser and weaker fiber than last season. Comber waste is higher. Yarn strength is weaker, while appearance grades are higher than a year ago. Yarn imperfections are fewer for the combed yarns. Spinning potential is lower than last season.

Long staple samples from the West show shorter and stronger fiber than last season. Yarn strength is stronger and the appearance index is higher than a year ago. Yarn imperfections are fewer than last season and the average spinning potential number is higher.

Extra long staple American Pima samples from the West show fiber longer, coarser and stronger than a year ago. Comber waste is higher. Combed yarn strength is stronger than last season. Yarn appearance grades are higher while yarn imperfections are more than a year ago.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States
1/
through January 11, 1974

Staple group Area, and Crop year	Lots tested	Fiber test results						Processing test results					
		Fibrograph		Mike fine- ness	Fiber strength		S A nonlint	P & C waste	Yarn quality		Spin. Potent.	Yarn No.	
		2.5% span	50/2.5 unif.		Pct.	Rdg.			Mpsi	G/tex			Pct.
				Inches			Pct.	22s			Carded	Yarn	
		No.											
Short Staple: Southwest 1972 1973	44 60	.97 .97	45 46	4.2 4.5	81 83	21 21	3.6 3.3	6.5 6.3	94 91	117 108	27 16	46 42	
Medium Staple: Southeast 1972 1973	60 54	1.08 1.08	45 46	4.3 4.5	83 82	23 22	3.0 3.6	6.1 6.0	104 101	104 105	16 21	66 61	
South Central 1972 1973	160 165	1.08 1.10	45 45	4.3 4.5	83 81	23 22	2.8 3.1	6.2 5.8	102 101	109 107	19 19	64 61	
Southwest 1972 1973	42 50	1.06 1.07	45 45	4.2 4.3	83 82	22 22	3.3 3.0	6.4 5.7	101 98	118 97	24 23	61 56	
West 1972 1973	60 67	1.09 1.12	45 46	4.4 4.4	90 93	24 25	2.6 2.4	5.5 5.3	110 117	121 102	17 17	66 68	
U. S. Average 1972 1973	322 336	1.08 1.09	45 45	4.3 4.4	85 84	23 22	2.9 3.0	6.0 5.7	104 104	113 104	19 20	64 62	
Significant dif- ference 2/		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2	3	

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States
through January 11, 1974

1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results										
		Length		Mike	Strength		SA Non- lint	P&C Waste	Pct.	Pct.	Comber Waste	Yarn Quality				SPY		
		Span	Unif		Zero gage	1/8" gage						Strength carded	Lbs. carded	Indx carded	Indx combed		Imprfctns card	comb
<u>Long Staple:</u>																		
Southeast																		
1972	19	1.12	44	4.3	85	24	3.6	8.5	16.9	107	123	102	117	24	10	68		
1973	17	1.12	45	4.6	82	23	3.9	8.6	17.0	103	119	117	124	14	7	65		
South Central																		
1972	4	1.16	44	4.0	88	24	4.2	8.8	16.0	116	131	100	110	20	11	75		
1973	6	1.14	44	4.3	86	24	3.8	8.8	17.3	108	126	117	127	19	8	64		
West																		
1972	15	1.17	44	3.6	91	25	2.5	7.2	15.6	126	145	91	100	26	13	86		
1973	14	1.15	45	3.6	92	27	2.6	7.6	15.4	134	152	95	106	18	10	90		
U. S. Average																		
1972	38	1.14	44	4.0	88	24	3.3	8.0	16.3	116	133	97	109	24	11	76		
1973	37	1.14	45	4.2	86	24	3.4	8.2	16.4	116	133	109	118	17	9	74		
<u>50's Combed Yarn</u>																		
American Pima																		
<u>Array</u>																		
<u>Extra Long Staple:</u>																		
West																		
1972	20	1.44	32	3.6	97	32	2.6	7.8	17.7	63			113		3			
1973	16	1.46	31	3.8	101	33	3.3	8.0	18.4	67			122		9			
Significant Difference <u>2/</u>																		
		0.02	2	0.2	2	1	0.5	0.5	0.5	4(22s)	5	5	2	2	2	3		

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification & Sample Number					Fiber Test Results										Processing Test Results - Carded Yarns									
No	Grade	Name & Code	Suple 32s	2.5% span	Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- lint		Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Poten- tial
					Unif	Pct		Rdg	Mpsi		G/tex	Pct	Pct	Gra		Yel	8s or 7 1/4 tx	22s or 27 tx	Lbs	Pct	8s or 7 1/4 tx	22s or 27 tx	8s or 7 1/4 tx	
SOUTHWEST AREA																								
CENTRAL TEXAS																								
PRINCETON																								
3 LM	51 1/31			.99	46	5.0	79	21	6.5	3.0	4	3		6.1	273	85	7.2	5.9	120	100	14	13	45	
WAXAHACHIE																								
3 LM LT SP	52 2/31			1.00	46	4.7	82	22	6.2	3.7	4	3		7.0	273	89	6.8	6.0	120	90	24	25	45	
NORTHWEST TEXAS																								
BULA																								
3 MID LT SP	32 30	0.91			48	3.9	85	23	6.7	3.9	2	4		5.6 3/4	305	93	7.9	6.8	130	120	13	12	42	
BURKBURNETT																								
2 SLM	41 32	0.98			47	4.8	76	20	7.3	3.1	2	3		6.6	300	94	8.6	7.3	120	110	16	13	48	
EDMONSON																								
2 MID LT SP	32 30	0.95			46	3.4	81	22	6.8	4.5	2	5		6.0 3/4	297	92	7.9	6.8	120	90	22	15	40	
ELDORADO																								
3 LM LT SP	52 2/31	0.99			43	4.1	76	21	7.5	3.3	3	3		7.3	278	87	8.1	6.9	130	100	19	22	41	
MEADOW																								
3 SLM	41 31	0.95			46	4.3	83	21	6.3	3.1	1	3		6.3 3/4	295	93	7.8	6.4	120	90	21	15	47	
RALLS																								
3 MID	31 32	0.96			46	4.1	78	23	7.8	2.9	1	3		4.9 3/4	309	97	8.1	6.8	120	100	16	11	46	
RULE																								
3 SLM LT SP	42 31	1.02			44	5.0	79	21	6.8	2.4	3	3		7.3	286	88	7.7	6.4	130	100	15	13	45	
OKLAHOMA																								
CARNEGIE																								
2 MID LT SP	32 31	.97			46	4.5	77	20	7.4	2.5	2	3		5.5	272	89	7.9	6.5	120	100	11	10	44	
GOTEBO																								
2 SLM	41 31	0.95			46	4.8	79	20	7.0	4.8	2	3		6.6	279	85	8.2	6.7	130	120	10	9	36	
1/ Reduced from 41 because of bark																								
2/ Reduced from 42 because of bark																								
3/ Cotton stuck to processing rolls																								

1/ Reduced from 41 because of bark

2/ Reduced from 42 because of bark

3/ Cotton stuck to processing rolls

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification				Fiber Test Results										Processing Test Results - Carded Yarns									
Sample Number				Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint		Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Potent- ial
No	Grade	Stple	2.5% span	Unif.	Zero		1/8" Gage	Gra		Yel	22s or 27 tx	50s or 12 tx	22s or 27 tx		50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx		
Name & Code				In		Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	
32s																							
SOUTHEAST AREA																							
ALABAMA																							
GREENBRIER																							
3 LM	51	33	1.04	46	4.0	80	22	7.9	3.8	2	3	4.8	100	31	6.9	5.0	100	70	29	23	59		
HARPERSVILLE																							
3 SLM	41	33	1.04	46	4.4	87	22	6.8	2.8	2	2	4.0	98	27	6.7	4.3	100	70	16	12	54		
GEORGIA																							
DAWSON																							
3 LM	51	33	1.11	43	4.7	78	22	6.6	4.1	3	2	5.4	91	27	6.3	4.5	100	70	23	19	51		
REYNOLDS																							
3 LM	51	34	1.08	43	4.4	80	22	6.8	2.7	3	2	6.2	92	28	6.1	4.3	90	70	33	21	53		
SOUTH CENTRAL AREA																							
LOUISIANA																							
ALEXANDRIA																							
3 LM	51	34	1.07	43	4.6	77	20	6.8	2.4	4	3	4.8	77	21	5.4	3.9	90	60	26	29	44		
LAKE PROVIDENCE																							
3 SLM	41	35	1.13	45	4.2	79	21	8.0	3.3	2	2	3.9	109	35	7.4	5.3	80	70	21	20	68		
MONROE																							
3 SLM LT SP	42	35	1.14	44	4.5	77	21	7.3	2.6	3	3	4.7	93	28	6.5	4.4	90	60	30	26	58		
OAK GROVE																							
3 SLM LT SP	42	34	1.08	44	4.0	83	21	7.6	2.4	3	3	3.4	101	31	6.5	4.6	120	90	14	11	56		
MISSISSIPPI																							
LAKE CORMORANT																							
3 SLM	41	36	1.13	44	4.2	78	21	8.7	2.8	1	2	5.2	102	33	6.8	4.9	100	80	11	9	61		
PANTHER BURN																							
3 LM	51	35	1.14	44	3.8	76	21	8.1	5.1	2	1	5.0	109	36	7.7	5.4	90	70	20	15	66		

Table 3--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973--(Continued)

Production Area, Classification				Fiber Test Results										Processing Test Results - Carded Yarns									
Sample Number				Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Poten- tial	
No	Grade	Stple	32s	In	Pct		Rdg	Mpsi			G/tex	Pct		Gra	Yel	22s or 27 tx	50s or 12 tx	Pct	Lbs	22s or 27 tx	50s or 12 tx		No
SOUTHWEST																							
AREA																							
NORTHWEST TEXAS																							
BRCHNFIELD				DELTA PINE SR-1																			
3	SLM	41	33	1.04	47	3.9	92	24	6.1	2.3	1	3	5.9	111	35	6.3	4.6	80	70	20	20	63	
LUBBOCK				COKER 5110																			
3	SLM	41	34	1.07	44	4.2	83	23	7.1	4.5	1	3	5.2	91	27	5.8	4.5	80	70	18	16	45	
O'DONNELL				LOCKETT 4789																			
3	MID LT SP	32	31	1.03	42	3.6	78	22	7.0	3.3	3	3	6.4	91	25	6.2	4.2	70	60	23	21	49	
RAYLAND				LOCKETT 4789A																			
2	SLM	41	33	1.08	45	4.6	85	24	6.4	4.7	2	3	6.6 1/2	109	36	6.7	4.9	90	80	13	12	58	
ROPEVILLE				LOCKETT 4789A																			
3	MID	31	32	1.07	45	3.4	86	23	6.9	3.9	1	3	4.7	106	32	6.7	4.6	100	80	14	11	56	
VERNON				LOCKETT 8XL																			
2	SLM LT SP	42	33	1.08	43	4.3	82	22	7.0	4.7	3	4	5.9	102	31	6.6	4.6	100	70	12	9	52	
WELCH				PAYMASTER 111A																			
2	SLM	41	32	1.03	45	4.0	83	21	6.9	3.6	1	3	6.1 1/2	98	28	6.4	4.8	90	70	13	14	51	
OKLAHOMA				DELTA PINE 16																			
WEBBERS FALLS				DELTA PINE 16																			
3	SLM	41	36	1.16	44	3.8	80	22	8.5	4.2	2	2	5.7	107	35	7.7	5.4	100	70	14	12	66	
WEST																							
AREA																							
ARIZONA																							
BOWIE				STONEVILLE 213																			
3	MID	31	35	1.10	45	3.9	78	22	7.3	2.6	0	3	4.6 1/2	105	32	6.6	4.7	110	80	9	8	55	
BUCKEYE				STONEVILLE 213																			
3	MID	31	35	1.08	44	4.7	95	23	5.8	3.2	0	3	6.8	93	27	5.7	3.9	110	80	8	6	44	
PARKER				DELTA PINE 16																			
3	MID	31	35	1.10	44	4.0	84	23	7.1	2.9	0	2	4.5 1/2	103	32	6.8	4.6	100	80	11	9	55	
SELMA				DELTA PINE 16																			
3	MID	31	35	1.10	42	3.5	83	21	7.4	4.2	0	2	4.5 1/2	109	35	6.9	5.1	100	70	11	9	60	

1/ Cotton stuck to processing rolls

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1973--(Continued)

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns									
No	Grade	Name & Code	Stple	Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfct's		Spin. Poten- tial	
				2.5% span	Unif.		Zero Gage	1/8" Gage			Gr	Yel		22s or 27 tx	Lbs	22s or 27 tx	12 tx	22s or 27 tx	12 tx	22s or 27 tx	12 tx		22s or 27 tx
32s				In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No		
WEST AREA--(Continued)																							
CALIFORNIA																							
BRAWLEY																							
3		MID		31	35	1.12	43	4.4	89	23	7.0	2.0	1	2	4.8	108	36	100	100	70	13	11	60
CHOWCHILLA																							
3		SLM		41	36	1.13	46	3.6	89	26	5.5	3.1	2	2	5.0	130	45	99	100	70	16	12	76
COALINGA																							
3		SLM		41	36	1.11	45	3.1	92	25	5.4	3.2	2	3	4.2	119	43	100	80	60	16	14	77
DOS PALOS																							
3		SLM		41	36	1.13	48	3.8	98	25	5.6	2.2	1	2	3.7	131	47	100	110	80	9	9	84
WASCO																							
3		MID		31	35	1.09	43	4.4	95	25	5.8	2.5	1	3	4.6	108	35	100	100	70	13	11	53
WEST TEXAS																							
PECOS																							
3		MID		31	34	1.07	39	2.7	81	22	8.4	2.5	0	2	5.3	106	33	100	80	60	18	19	58
PECOS																							
3		MID		31	34	1.05	42	3.3	81	20	7.3	2.4	0	3	4.9	99	31	100	90	70	16	12	49

* 100 percent selected for tests, less than 100 percent in the area

Table 4 --Cotton, American upland long staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification &				Fiber Test Results										Processing Test Results - Carded Yarns											
Sample Number				Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C Comber Waste		Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Potent- ial		
Grade		Style	2.5% span	Unif.	Rdg	Zero Gage	1/8" Gage	Pct	Pct	No	No	Pct	Pct	Lbs	Lbs	27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx				
No	Name & Code																								
<div>SOUTHEAST AREA</div>																									
<div>GEORGIA</div>																									
<div>COMER</div>																									
3	S LM LT SP	42	34	1.10	44	4.9	80	23	6.4	3.4	3	3	* 7.8	100 PERCENT	96	26	6.1	4.1	120	90	7	6	51		
<div>WEST AREA</div>																									
<div>NEW MEXICO</div>																									
<div>LAS CRUCES</div>																									
3	MID	31	36	1.14	43	2.9	96	27	6.3	3.5	1	3	* 18.1	100 PERCENT 1/	130	45	6.8	5.0	70	60	20	18	83		
<div>WEST TEXAS</div>																									
<div>DELL CITY</div>																									
2	MID	31	36	1.09	43	3.4	85	25	6.6	3.1	1	3	* 18.2	80 PERCENT	122	42	6.4	4.8	100	90	18	11	71		
<div>EL PASO</div>																									
3	S LM	41	36	1.12	44	2.8	90	28	6.4	4.2	1	2	* 16.2	90 PERCENT	138	50	6.9	5.3	70	60	28	17	96		
<div>70 16 12</div>																									

* Comber Waste and Combed Yarn Data
 1/ 100 percent selected for tests, less than 100 percent in the area

Table 5 --Cotton, American Pima extra long staple: Quality characteristics by production areas, crop of 1973

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Combed Yarns									
No	Grade	Name & Code	Style	Array Length		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C Waste	Comber Waste	Strength		Elongation		Appearance Index		Imperfect's		
	UQL			CV	Zero Gage		1/8" Gage	Gra			Yel	50s or 12 tx			80s or 7 tx	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx				
				In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	
WEST AREA																							
ARIZONA																							
PEORIA																							
2	4	44		1.49	30	3.9	109	36	6.8	3.7	3	4	8.5	20.3	100 PERCENT	70	39	5.4	4.9	120	110	1	1
SAFFORD																							
2	3	44		1.51	30	3.7	103	33	7.4	3.0	4	5	8.3	21.3	80 PERCENT	69	39	5.5	4.9	120	120	0	0
STANFIELD																							
2	4	44		1.49	32	3.8	103	36	7.0	4.5	4	5	9.3	19.6	100 PERCENT	70	39	5.5	4.8	110	110	0	1
WEST TEXAS																							
EL PASO																							
3	44			1.42	33	3.4	101	33	6.9	4.7	4	5	8.8	18.4	100 PERCENT	66	36	5.2	4.9	120	110	1	1

